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To:	Examiner Leigh C. Maier Group 1600, Art Unit 1623 United States Patent and Trademark Office
Fax No:	(703) 872-9306
From:	Jaen Andrews, PhD, JD Patent Attorney
Date:	January 10, 2005
No. Pages:	4 (including cover sheet)
Re:	US Patent Application Serial No. 09/493,891

Message: ***UNOFFICIAL DOCUMENTS. FOR DISCUSSION ONLY***

Dear Examiner Maier,

Following are a set of proposed amended claims for the above-referenced patent application, which is currently under final rejection. These proposed claims are submitted for your convenience and use during our interview scheduled for tomorrow, January 11, 2005 at 10:00 am EST. I have asked inventor Dr. Ned Heindel to join us to explain aspects of the technology; I plan to initiate the conference telephone call from my office.

Thank you for agreeing to talk with us. If you would like additional information, please let me know.

Jaen Andrews, Patent Attorney

LACTONES OF CARBOXYLIC ACID POLYSACCHARIDES AND METHODS FOR FORMING CONJUGATES THEREOF

Inventors: **Longton, Wallace A; Martey, Christine A; Heindel, Ned D.**
Filed: **01/28/00**
Serial No.: **09/493,891**
Docket No.: **LEH-0035-98**

PROPOSED AMENDED CLAIMS

(In Response to Final Office Action mailed 10/20/04)

Added text: Underlined

Deleted text: ~~Struckthrough~~

3. (Currently Amended) A method for the synthesis of a lactone of polysaccharide carboxylic acids which comprises (i) providing the free acid form of the polysaccharide as a finely-powdered, anhydrous carboxylic acid with minimal sodium and potassium carboxylate content; (ii) lactonizing said polysaccharide by thermal dehydration ~~for a period greater than five hours~~ in an anhydrous non-nucleophilic solvent; and (iii) collecting the resulting lactone product, wherein the polysaccharide carboxylic acid is selected from the group consisting of carboxymethyl cellulose, carboxymethyl cyclodextrin, carboxymethyl starch, carboxymethyl chitosan, pectin, and carboxy starch, and wherein the method does not use chemical activating or promoting agents.

Comment: Support for proposed claim amendment in specification: page 6, lines 20-22; page 5, lines 13-16; page 5, line 26 to page 6, line 8; page 13, lines 8-15.

5. (Original) A method according to Claim 3 which further comprises conducting said lactonization in a refluxing media selected from the group consisting of xylene, toluene, diglyme, and acetonitrile.

6. (Previously Amended) A method according to Claim 5 wherein the polysaccharide carboxylic acid is carboxymethyl-cellulose and lactonizing consists of:

(i) suspending the 30 carboxymethylcellulose in anhydrous diglyme;

(ii) heating the suspension to about 150°C for about 24 hours;

(iii) removing the diglyme solvent; and

(iv) collecting the lactone.

7. (Currently Amended) A method according to Claim 5 wherein the polysaccharide carboxylic acid is pectin acid and lactonizing consists of:

~~(v)~~ (i) suspending the pectin in anhydrous toluene;

~~(vi)~~ (ii) heating the suspension for about 24 hours;

~~(vii)~~ (iii) removing the toluene solvent; and

~~(viii)~~ (iv) collecting the lactone.

Comments: proposed claim amendment corrects the numbering in this claim.

8. (Previously Amended) A method according to Claim 5 wherein the polysaccharide carboxylic acid is carboxymethyl-starch and lactonizing consists of:

(i) converting the starch to the free acid;

(ii) suspending the free acid in anhydrous diglyme;

(iii) heating the suspension;

(iv) removing the diglyme solvent; and

(v) collecting the lactone.

9. (Previously Amended) A polysaccharide carboxylic acid lactone product made in accordance with the method of Claim 3.

15. (Cancel) A method according to Claim 3, in which the polysaccharide carboxylic acid is selected from the group consisting of carboxymeyhylcellulose; carboxymethyl alpha-dextran; carboxymethyl beta-dextran; carboxymethyl starch; O,N-dicarboxymethyl chitosan; O-carboxymethyl chitosan; N-carboxymethyl chitosan, carboxy-starch; and pectin.